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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/798,643

03/10/2004

Eric A. Jacobsen

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EXAMINER

CHAUDRY, MUJTABA M

ART UNIT

PAPER NUMBER

2112

MAIL DATE

DELIVERY MODE

07/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,643	JACOBSEN, ERIC A.	
	Examiner	Art Unit	
	Mujtaba K. Chaudry	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-16 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,9 and 24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4-8,10-13,17-23 and 25-27 is/are allowed.
- 6) ☒ Claim(s) 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's response was received May 2, 2007.

- Claims 2, 3, 9 and 24 were cancelled.
- Claims 1, 4-8, 10-13, 17-23 and 25-27 are allowed in light of amendments.
- Claims 14-16 remain rejected in light of amendments and remarks.

Application pending.

Response to Amendment

Applicant's arguments/amendments with respect to amended claims 14-16 filed May 2, 2007 have been received. All arguments have been fully considered but are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (USPAN 2004/0148561).

As per claim 14, Shen substantially teaches (abstract) an iterative decoding approaches that are employed to decode LDPC coded signals. This approach may be implemented in any one of the following three ways. One way involves combining the Sum-Product (SP) soft decision decoding approach with the Bit-Flip (BF) hard decision decoding approach in an intelligent manner that may adaptively select the number of iterations performed during the SP soft decoding process. The other two ways involve modification of the manner in which the SP soft decoding approach and the BF hard decision decoding approach are implemented. One modification involves changing the initialization of the SP soft decoding process, and another modification involves the updating procedure employed during the SP soft decoding approach process. Particularly, Shen teaches a device configured to decode received information (i.e., Figure 1, satellite receiver with decoder) using a first iterative decoding algorithm (i.e., Figure 13B, SP soft decision decoder and paragraph 0143) to converge a probability regarding bit logic states and after a last iteration (i.e., paragraph 0118, lines 1-5), using a second decoding algorithm (i.e., Figure 13B, (BF) bit-flip hard decision decoder and paragraph 0143) to potentially flip a logic state of one or more bits.

Shen does not explicitly teach a network access station as stated in the present application.

However, the specification of the present application defines (specification, paragraph 0034) a network access station to include a transceiver. Shen teaches (i.e., paragraph 0065) a transceiver. Therefore it would have been obvious to perform the iterative decoding process within a network access station. This would have been obvious to one of ordinary skill in the art

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because one of ordinary skill in the art would have recognized that by utilizing iterative decoding process within a network access station would increase the versatility of the system.

As per claim 15, Shen substantially teaches, in view of above rejections, a device configured to decode received information (i.e., Figure 1, satellite receiver with decoder) using a first iterative decoding algorithm (i.e., Figure 13B, SP soft decision decoder and paragraph 0143) to converge a probability regarding bit logic states and after a last iteration (i.e., paragraph 0118, lines 1-5), using a second decoding algorithm (i.e., Figure 13B, (BF) bit-flip hard decision decoder and paragraph 0143) to potentially flip a logic state of one or more bits.

Shen does not explicitly teach a network interface card as stated in the present application.

However, the Examiner would like to point out that, by definition, a network card is a piece of computer hardware designed to allow computers to communicate over a computer network. Shen teaches a mobile computer having transceiver functionality (i.e., paragraph 0065, lines 8-11) therefore the computer has to have a network interface card in order to communicate over a network. Therefore it would have been obvious to perform the iterative decoding process with network interface card. This would have been obvious to one of ordinary skill in the art because one of ordinary skill in the art would have recognized that by utilizing iterative decoding process with a network interface card would increase the versatility of the system and would have been an obvious engineering design choice that is not patentably distinct.

As per claim 16, Shen substantially teaches, in view of above rejections, a device configured to decode received information (i.e., Figure 1, satellite receiver with decoder) using a first iterative decoding algorithm (i.e., Figure 13B, SP soft decision decoder and paragraph 0143)

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to converge a probability regarding bit logic states and after a last iteration (i.e., paragraph 0118, lines 1-5), using a second decoding algorithm (i.e., Figure 13B, (BF) bit-flip hard decision decoder and paragraph 0143) to potentially flip a logic state of one or more bits.

Shen does not explicitly teach a OFDM enabled transceiver as stated in the present application.

However, the Examiner would like to point out that OFDM is a well known modulation scheme that is inherently used by transceivers when they receive data. Shen also teaches (i.e., Figure 8) a system diagram illustrating an embodiment of a satellite receiver set-top box system that is built according to the invention. The satellite receiver set-top box system includes an advanced modulation satellite receiver that is implemented in an all digital architecture. The satellite receiver set-top box system includes a satellite tuner that receives a signal via the L-band. The satellite tuner extracts I,Q (in-phase and quadrature) components from a signal received from the L-band and provides them to the advanced modulation satellite receiver. The advanced modulation satellite receiver includes an embodiment of the decoder. The decoder is operable to support oscillation reduction and/or elimination when decoding LDPC coded signals. Therefore it would have been obvious to perform the iterative decoding process with OFDM enabled transceiver. This would have been obvious to one of ordinary skill in the art because one of ordinary skill in the art would have recognized that by utilizing iterative decoding process with an OFDM enabled transceiver would increase the versatility of the system and would have been an obvious engineering design choice that is not patentably distinct.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

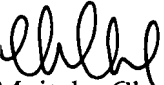
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiries concerning this communication should be directed to the examiner, Mujtaba Chaudry who may be reached at 571-272-3817. The examiner may normally be reached Mon – Thur 6:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Mujtaba Chaudry
Art Unit 2112
July 5, 2007


GUY LAMARRE
PRIMARY EXAMINER